

## PATENT ABSTRACTS OF JAPAN

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### (54) OPERATING METHOD FOR SMALL-SIZED PHOSPHORIC ACID TYPE FUEL CELL

#### (57)Abstract:

**PURPOSE:** To prevent a phosphoric acid electrolyte from being completely solidified in the case where a temperature of a battery is decreased to a room temperature by partly providing a portion having a concentration less than a specific value in the phosphoric acid electrolyte during operation.

**CONSTITUTION:** An electrolytic matrix 24 made of SiC is interposed between a positive electrode 3 and a negative electrode 2 each carrying a catalyst such as platinum on carbon paper, thus obtaining a cell 25. A plurality of cells 25, each of which is sandwiched between a bipolar plate 28 made of graphite having hydrogen supply grooves 26 on the reverse surface thereof and another bipolar plate 28 made of graphite having air supply grooves 27 on the obverse surface thereof, are laminated, thereby constituting a battery. A phosphoric acid electrolyte is impregnated in the positive and negative electrodes 3, 2 and the electrolytic matrix 24, wherein there is partly provided a portion having a concentration less than 91.6wt.%. Since a solidifying temperature is remarkably low in the case of less than the above-mentioned concentration, a portion in a liquid state remains at a room temperature so that the battery can be started.



